LANL scientists win two prestigious E.O. Lawrence Awards from the Department of Energy

November 28, 2011

U.S. Secretary of Energy Steven Chu announced today that Los Alamos National Laboratory scientists Mark Chadwick and David Chavez are winners of 2011 Ernest Orlando Lawrence Awards.

The award recognizes their outstanding contributions in research and development supporting the Department of Energy and its missions. Nine winners were named today in eight categories. Winners in each category will receive a gold medal, a citation, and $20,000. Winners will be honored at a ceremony in Washington, DC, early next year. The E.O. Lawrence Award is administered by the Department of Energy's Office of Science.

Mark Chadwick of X-Computational Physics (X-CP) Division leader is honored in the National Security and Nonproliferation category for innovative scientific contributions to advance understanding of fission product yields and other key nuclear reactions resulting in the resolution of a longstanding problem in national security.

David Chavez of Weapons Experiments Division, High Explosives Science and Technology (WX-7) is honored in the Atomic, Molecular, and Chemical Sciences category for his discovery of new chemical synthetic schemes used to advance development of fundamentally novel, highly energetic, environmentally friendly (high-nitrogen) molecular materials important to national security missions.

"We could not be prouder of Mark and David for achieving this tremendous honor," said Charlie McMillan, LANL director. "Their contributions help us not only understand today’s national security challenges but prepare us for those of tomorrow. This Laboratory would not be what it is today without people like Mark and David."

"Having two winners from the Weapons Program at LANL demonstrates the excellence we see every day from our technical staff," said Bret Knapp, principal associate director of the Weapons Program. "Mark's contribution to computational physics is helping unravel a long disagreement from past nuclear tests, enhancing our ability to ensure the safety, security, and effectiveness of the U.S. nuclear deterrent. David is renowned for his advancements in high explosive research, creating new materials that have increased safety and are more environmentally benign. His work on low-carbon-emission explosives has led the energetic materials research community."

Before becoming the X-CP division Leader, Chadwick was the Theoretical division Deputy Division Leader. His research work is in applied nuclear physics. His work on modeling neutron cross sections on plutonium, americium, uranium and radchem

materials — with measurements by collaborators at Los Alamos Neutron Science Center - has established robust metrics for validating nuclear weapons simulations. He has 250 publications and 2,900 citations. In 2009 he was elected Fellow of the American Physical Society. Chadwick holds bachelors and doctorate degrees from the University of Oxford.

Chavez is the High Explosives Chemistry and Properties project Leader at LANL. He has published more than 40 papers in the areas of organic chemistry and energetic materials synthesis, and has more than 600 citations. He holds eight patents in energetic materials and pyrotechnics. He is an adjunct professor of chemistry at the University of New Mexico, Taos campus and an invited professor at the École Normale Supérieure, in Cachan, France. Chavez joined Los Alamos National Laboratory in 2003 as a post doc after receiving his doctorate in chemistry from Harvard University. At Harvard he was a National Science Foundation and Beinecke Memorial fellow. He also holds a bachelors degree in chemistry from the California Institute of Technology.

With these two awards LANL scientists have now won a total of 30 E.O. Lawrence awards over the years.

The E.O. Lawrence Award honors U.S. scientists and engineers, at mid-career, for exceptional contributions in research and development supporting the Department of Energy and its mission to advance the national, economic and energy security of the United States.

The award was established in honor of E. O. Lawrence, the inventor of the cyclotron, an accelerator of subatomic particles, and a 1939 Nobel Laureate in physics for that achievement. The Radiation Laboratory he developed at the University of California's Berkeley campus during the 1930s ushered in the era of "big science," in which experiments were no longer done by an individual researcher and a few assistants on the table-top of an academic lab but by large, multidisciplinary teams of scientists and engineers in entire buildings full of sophisticated equipment and huge scientific machines.

The E.O. Lawrence awards were begun by the Atomic Energy Commission and first given out in 1960.